

In the Abstract:

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A multi-thermal zone shielding apparatus provides a multi-zone temperature profile for the shield while shielding a portion of a hot workpiece in a high temperature processing system. The apparatus keeps the workpiece temperature hot at the shielded area and ~~maintaining~~ maintains the rest of the shield ~~cooler~~ at a lower temperature. The apparatus ~~comprises~~ includes a multi-thermal zone shield having a low thermal ~~transmissivity~~ transmissivity section for preventing ~~[[the]]~~ heat ~~lost of~~ loss from the shielded portion of the hot workpiece due to less thermal energy being transmitted ~~transmitting~~ through the shielding portion of the shield, thus maintaining a more uniform temperature at the shielded portion of the workpiece, and a high thermal ~~transmissivity~~ transmissivity section in the rest of shield for allowing more thermal energy from the hot workpiece to be transmitted ~~transmitting~~ through the shield without heating the shield, thus maintaining a ~~cooler~~ lower temperature at the portion of the shield that is not engaged with the workpiece. ~~In a preferred embodiment, the invention~~ The apparatus ~~can further includes~~ include a non-reactive gas inlet for creating a pressurized cavity in the vicinity of the shielded portion of the workpiece.